

## Patent Claims

Sub  
B1

09806123.051801

- 5 1. A composite article made from polyacetal and from at least one modified styrene-olefin elastomer, formed by a polyacetal molding which has to some extent or completely been coated with the modified styrene-olefin elastomer, or to which one or more moldings made from the modified styrene-olefin elastomer have been directly molded-on, where the modified styrene-olefin elastomer is a composition which comprises from 20 to 85% by weight of functionalized and/or non-functionalized high-molecular-weight styrene-olefin block copolymer, built up from rigid end-blocks of styrene and from flexible middle blocks of olefin, and from 15 to 70% by weight of non-olefinic thermoplastic material, and also at least 5 parts by weight respectively and not more than 200 parts by weight respectively of lubricating plasticizer and/or inorganic filler per 100 parts by weight of styrene-olefin block copolymer, and has a Shore A hardness of from 30 to 90.
- 10
- 15
- 20 2. A composite article as claimed in claim 1, wherein the polyacetal and the modified styrene-olefin elastomer have been adhesively bonded to one another.
- 25 3. A composite article as claimed in claim 1 or 2, wherein the strength of the bond between the polyacetal and the modified styrene-olefin elastomer is at least  $0.5 \text{ N/mm}^2$ .
- 30 4. A composite article as claimed in any one of claims 1 to 3, wherein the polyacetal used comprises a polyoxymethylene copolymer.
- 35 5. A composite article as claimed in any one of claims 1 to 4, wherein the non-olefinic thermoplastic material has been selected from the class consisting of thermoplastic polyesterurethane elastomers, thermoplastic polyetherurethane elastomers, thermoplastic polyesters, thermoplastic polyesterester elastomers, thermoplastic polyetherester elastomers, thermoplastic polyetheramide elastomers, thermoplastic polyamides, thermoplastic

polycarbonates, thermoplastic polyacrylates, acrylate rubbers and styrene-acrylonitrile-acrylate rubbers (ASA).

6. A composite article as claimed in any of claims 1 to 5, in the form of a molding made from polyacetal, which has been entirely or to some extent coated with the modified styrene-olefin elastomer.

7. A composite article as claimed in any one of claims 1 to 6, in the form of a molding made from polyacetal, to which at least one other molding made from the modified styrene-olefin elastomer has been molded-on.

8. A composite article as claimed in any one of claims 1 to 7, which has been produced by multicomponent injection molding.

9. A composite article as claimed in claim 8, wherein the molding is firstly molded from polyacetal and then a coating or a molding made from the modified styrene-olefin elastomer is injected onto the polyacetal molding.

10. A process for producing a composite article made from polyacetal and from at least one modified styrene-olefin elastomer, where the modified styrene-olefin elastomer comprises from 15 to 70% by weight of non-olefinic thermoplastic material, and where a molding is firstly molded from polyacetal, onto which is then molded a coating or at least one molding made from the modified styrene-olefin elastomer, giving an adhesive bond between the polyacetal and the modified styrene-olefin elastomer.

11. The process as claimed in claim 10, which is a multicomponent injection-molding process carried out in a mold, where the molding made from polyacetal has been preheated to a temperature in the range from 80°C to just below its melting point prior to molding-on of the modified styrene-olefin elastomer, the melt temperature of the modified styrene-olefin elastomer is from 200 to 270°C during molding onto the molding made from polyacetal, and the

temperature control of the mold has been set to a temperature in the range from 20 to 140°C.

Sub  
B  
Cont

5

12. The process as claimed in claim 11, wherein the molding made from polyacetal has been preheated to a temperature in the range from 100 to 160°C, the melt temperature of the modified styrene-olefin elastomer is from 220 to 260°C, and the temperature control of the mold has been set to a temperature in the range from 30 to 80°C.
- 

09805123-051801